

What is claimed is

1. A method for remotely associating devices with user accounts comprising:
automatically detecting a device at an installation;
extracting registration information from the device;
communicating the registration information to a remote site using a communications network;
registering the device with the remote site based on the registration information; and
associating the device at the remote site with a user account based on the registration information.

2. The method defined in claim 1 further comprising registering at the remote site a resource of the device.

3. The method defined in claim 1, further comprising registering at the remote site a component of a resource of the device.

4. The method defined in claim 1, further comprising registering at the remote site a virtual representation of the device.

5. The method defined in claim 4, wherein the virtual representation of a component is used as one of an indicator or a means by which to effect a change in state of the device.

6. The method defined in claim 4, wherein

the virtual representation of a component is selected from a group consisting of toggle button, radio buttons, absolute slider, proportional slider, edit field, label, image, video clip, streaming video, audio clip, multiselect list, time field, date field, N-directional component, N-state button, N-state selector, tree, table, graph, chart, drawing pad, streaming audio, and banner.

7. The method defined in claim 4, further comprising providing a user associated with the user account an opportunity to access the virtual representation of the device.

8. The method defined in claim 1, wherein communicating registration information comprises generating a registration message using hypertext transfer protocol.

9. The method defined in claim 1, further comprising creating the user account before associating the installation with the user account.

10. The method defined in claim 1, further comprising communicating a confirmation message to the installation using the communications network.

11. The method defined in claim 1, wherein the communications network is any one of the following: the Internet, an Intranet, a local area network, a wide area network, a telephone network, or a cable television network.

12. The method defined in claim 1, wherein the device is any one of the following: a motion sensor, a video camera, a still camera, a contact sensor, a smoke sensor, or a light switch.

13. The method defined in claim 1, wherein the device is a household appliance.

14. The method defined in claim 1, wherein registering the device at the remote site comprises:
creating table entries in a database;
and
storing the registration information in the appropriate table entries of the database.

15. The method defined in claim 14, wherein creating table entries comprises calling at least one application program interface function at a web server to create table entries in a database at a database server.

16. The method defined in claim 14, wherein storing registration information comprises calling at least one application program interface function at a web server to store registration information in corresponding table entries in a database at a database server.

17. The method defined in claim 1, further comprising validating a registration message at the remote site.

18. The method defined in claim 17, wherein validating the registration message comprises checking message validity.

19. The method defined in claim 17, wherein validating the registration message comprises checking command validity.

20. A system for remotely associating devices with user accounts comprising:
 means for automatically detecting a device at an installation;
 means for extracting registration information from the device;
 means for communicating the registration information to a remote site using a communications network;
 means for registering the device with the remote site based on the registration information;
and
 means for associating the device at the remote site with a user account based on the registration information.

21. The system defined in claim 20 further comprising means for registering at the remote site a resource of the device.

22. The system defined in claim 20, further comprising means for registering at the remote site a component of a resource of the device.

23. The system defined in claim 20, further comprising means registering at the remote site a virtual representation of the device.

24. The system defined in claim 23, wherein the virtual representation of a component is used as one of an indicator or a means by which to effect a change in state of the device.

25. The system defined in claim 23, wherein the virtual representation of a component is selected from a group consisting of toggle button, radio buttons, absolute slider, proportional slider, edit field, label, image, video clip, streaming video, audio clip, multiselect list, time field, date field, N-directional component, N-state button, N-state selector, tree, table, graph, chart, drawing pad, streaming audio, and banner.

26. The system defined in claim 23, further comprising means for providing a user associated with the user account an opportunity to access the virtual representation of the device.

27. The system defined in claim 20, wherein means for communicating registration information comprises means for generating a registration message using hypertext transfer protocol.

28. The system defined in claim 20, further comprising means for creating the user account before associating the installation with the user account.

29. The system defined in claim 20, further comprising means for communicating a confirmation message to the installation using the communications network.

30. The system defined in claim 20, wherein the communications network is any one of the following: the Internet, an Intranet, a local area network, a wide area network, a telephone network, or a cable television network.

31. The system defined in claim 20, wherein the device is any one of the following: a motion sensor, a video camera, a still camera, a contact sensor, a smoke sensor, or a light switch.

32. The system defined in claim 20, wherein the device is a household appliance.

33. The system defined in claim 20, wherein means for registering the device at the remote site comprises:

means for creating table entries in a database; and

means for storing the registration information in the appropriate table entries of the database.

34. The system defined in claim 33, wherein means for creating table entries comprises means for calling at least one application program interface function at a web server to create table entries in a database at a database server.

35. The system defined in claim 33, wherein means for storing registration information comprises means for calling at least one application program interface function at a web server to store registration information in corresponding table entries in a database at a database server.

36. The system defined in claim 20, further comprising means for validating a registration message at the remote site.

37. The system defined in claim 36, wherein means for validating the registration message comprises means for checking message validity.

38. The system defined in claim 36, wherein means for validating the registration message comprises means for checking command validity.

39. A system for remotely associating devices with user accounts comprising:

- a monitoring module that detects a device at an installation;

- a communications network that carries registration information from the monitoring module;
- and

- a remote site that uses the registration information to register the device and to associate the device with a user account based on the registration information.

40. The system defined in claim 39, wherein the communications network is any one of the following: the Internet, an Intranet, a local area network, a wide

area network, a telephone network, or a cable television network.

41. The system defined in claim 39, wherein the device is any one of the following: a motion sensor, a video camera, a still camera, a contact sensor, a smoke sensor, or a light switch.

42. The system defined in claim 39, wherein the device is a household appliance.

43. The system defined in claim 39, wherein the monitoring module is a stand-alone device that is directly coupled to the communications network.

44. The system defined in claim 39, wherein the monitoring module is a stand-alone device that is coupled to the communications network via an access device.

45. The system defined in claim 39, wherein the monitoring module is a software application running on a computer.

46. The system defined in claim 39, wherein the monitoring module is partially implemented as software and partially implemented as hardware.

47. The system defined in claim 39, wherein the interface between the device and the monitoring module is a wired connection.

48. The system defined in claim 39, wherein the interface between the device and the monitoring module is a wireless connection.

49. The system defined in claim 39, further comprising a database server located at the remote site, wherein the database server comprises a database.

50. The system defined in claim 39, further comprising a web server located at the remote site.

51. The system defined in claim 39, further comprising:
a database server located at the remote site, wherein the database server comprises a database;
and
a web server located at the remote site.

52. The system defined in claim 39, further comprising a remote user access device for accessing the remote site from a location remote to the installation.

53. A method for automatically registering at a remote site a device located at an installation to allow remote interaction between the remote site and the device, wherein the installation has already been registered with the remote site, comprising:
conducting object discovery of new devices at the registered installation;
detecting a new device at the monitoring module;
extracting registration information from the device;

generating a registration message,
wherein the registration message comprises the
registration information; and
communicating the registration message
to the remote site using a communications network,
wherein the remote site uses the registration
information to register the device to allow remote
interaction between the remote site and the device.

54. The method defined in claim 53, wherein
conducting object discovery comprises continuously
checking for new devices.

55. The method defined in claim 53, wherein
conducting object discovery comprises periodically
checking for new devices.

56. The method defined in claim 53, wherein
communicating registration information comprises
generating a registration message, wherein the
registration message is comprised of the registration
information.

57. The method defined in claim 53, wherein
communicating registration information comprises
generating a registration message, wherein the
registration message is comprised of registration
information and information related to the registered
installation.

58. The method defined in claim 53, further
comprising:
generating a confirmation message at the
remote site;

communicating the confirmation message to the installation using the communications network; and

processing the confirmation message at the installation.

59. The method defined in claim 58, wherein generating a confirmation message comprises generating a message that includes an acknowledge character, wherein the registration was successful.

60. The method defined in claim 58, wherein generating a confirmation message comprises generating a message that includes a negative-acknowledge character, wherein the registration was unsuccessful.

61. The method defined in claim 60, further comprising resending the registration message from the installation to the remote site..

62. The method defined in claim 53, wherein the communications network is any one of the following: the Internet, an Intranet, a local area network, a wide area network, a telephone network, or a cable television network.

63. The method defined in claim 53, wherein the device is any one of the following: a motion sensor, a video camera, a still camera, a contact sensor, a smoke sensor, or a light switch.

64. The method defined in claim 53, wherein the device is a household appliance.

65. The method defined in claim 53, wherein using the registration information at the remote site comprises:

creating table entries in a database;

and

storing the registration information in the appropriate table entries of the database.

66. The method defined in claim 53, wherein using the registration information at the remote site comprises:

validating the registration message at the remote site;

using application program interface functions to create table entries in a database; and

using application program interface functions to store the registration information in the appropriate table entries of the database.

67. The method defined in claim 66, wherein validating the registration message comprises checking message validity.

68. The method defined in claim 66, wherein validating the registration message comprises checking command validity.

69. A system for automatically registering at a remote site a device located at an installation to allow remote interaction between the remote site and the device, wherein the installation has already been registered with the remote site, comprising:

means for conducting object discovery of new devices at the registered installation;

means for detecting a new device at the monitoring module;

means for extracting registration information from the device;

means for generating a registration message, wherein the registration message comprises the registration information; and

means for communicating the registration message to the remote site using a communications network, wherein the remote site uses the registration information to register the device to allow remote interaction between the remote site and the device.

70. The system defined in claim 69, wherein means for conducting object discovery comprises means for continuously checking for new devices.

71. The system defined in claim 69, wherein means for conducting object discovery comprises means for periodically checking for new devices.

72. The system defined in claim 69, wherein means for communicating registration information comprises means for generating a registration message, wherein the registration message is comprised of the registration information.

73. The system defined in claim 69, wherein means for communicating registration information comprises means for generating a registration message, wherein the registration message is comprised of registration information and information related to the registered installation.

74. The system defined in claim 69, further comprising:

means for generating a confirmation message at the remote site;

means for communicating the confirmation message to the installation using the communications network; and

means for processing the confirmation message at the installation.

75. The system defined in claim 74, wherein means for generating a confirmation message comprises means for generating a message that includes an acknowledge character, wherein the registration was successful.

76. The system defined in claim 74, wherein means for generating a confirmation message comprises means for generating a message that includes a negative-acknowledge character, wherein the registration was unsuccessful.

77. The system defined in claim 76, further comprising means for resending the registration message from the installation to the remote site..

78. The system defined in claim 69, wherein the communications network is any one of the following: the Internet, an Intranet, a local area network, a wide area network, a telephone network, or a cable television network.

79. The system defined in claim 69, wherein the device is any one of the following: a motion

sensor, a video camera, a still camera, a contact sensor, a smoke sensor, or a light switch.

80. The system defined in claim 69, wherein the device is a household appliance.

81. The system defined in claim 69, wherein means for using the registration information at the remote site comprises:

means for creating table entries in a database; and

means for storing the registration information in the appropriate table entries of the database.

82. The system defined in claim 69, wherein means for using the registration information at the remote site comprises:

means for validating the registration message at the remote site;

means for using application program interface functions to create table entries in a database; and

means for using application program interface functions to store the registration information in the appropriate table entries of the database.

83. The system defined in claim 82, wherein means for validating the registration message comprises means for checking message validity.

84. The system defined in claim 42, wherein means for validating the registration message comprises means for checking command validity.